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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/571,153

11/07/2006

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PO-8754/STA-229

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EXAMINER

FIORITO, JAMES

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

06/30/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/571,153	Applicant(s) BECK ET AL.	
	Examiner JAMES A. FIORITO	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/06</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Loeffelholz US 2003/0230167.

Loeffelholz teaches oxides of various valve metals or mixtures of two or more oxides in any desired ratio with or without dopants can be used to produce the desired oxide morphologies. Nb_2O_5 or Ta_2O_5 or mixtures thereof with one another or with other valve metals is preferably used. The oxides are produced using known processes. For example, tantalum and niobium pentoxide (Ta_2O_5 and Nb_2O_5) or mixtures thereof are produced by hydrolysis or combustion of tantalum compounds or niobium compounds or mixtures thereof. Preferably they are produced by precipitation of heptafluorotantallic acid (H_2TaF_7) and heptafluoroniobic acid (H_2NbF_7) or mixtures thereof from hydrofluoric acid solution by means of bases, in particular ammonia (NH_3),

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as tantalic acid $\text{Ta}(\text{OH})_5$ or niobic acid $\text{Nb}(\text{OH})_5$ or mixtures thereof and subsequent heat treatment. The desired morphology can be set both by targeted selection of precipitation conditions and during a later part of the process in the hydroxide or in the oxide. With simultaneous metering of the heptafluoro acid and ammonia, it is in this way possible, for example in a continuous process, to obtain spherical agglomerates with a uniform particle size distribution in the range from 10-80 microns and a defined pore size distribution. The agglomerate properties are in this case dependent on the concentrations of the starting solutions, the residence time in the reaction vessel and the pH. For example, to continuously produce spherical agglomerates, the precipitation process is carried out with concentrations of the heptafluoro acids of tantalum or niobium or mixtures thereof of between 10 and 300 g/l, but preferably 50-200 g/l, with NH_3 -concentrations of 1-20% by weight, but preferably with 3-9%, by weight, a mean residence time of the precipitated agglomerates of between 0.25 and 24 h, but preferably between 30 min and 3 h, and a pH at the precipitation process temperature of between 7 and 12, but preferably between 7.3-8.3. Even when different precipitation conditions are selected, it is possible to obtain a targeted spherical morphology, for example by spray drying (Paragraph 32).

Claims 1-10 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Brown US 6338832.

Brown teaches a process for producing a valve metal oxide precursor comprising: mixing in a first vessel an aqueous mixture of an ammonia solution and a

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valve metal fluoride compound at pH of about 6, at a temperature of from 30 degrees C to 95 degrees C for a residence time of from 0.03 hours to 2.0 hours to initiate precipitation of a hydrated valve metal oxide, wherein said valve metal is tantalum or niobium; transferring said aqueous mixture into at least a second vessel for mixing at the same or different temperature and residence time conditions as the first vessel and a pH of between 8 and 9.5 to continue further precipitation of hydrated valve metal oxide; and separating and recovering the hydrated valve metal oxide (Claim 1). The result product may have a BET surface area of $11 \text{ m}^2/\text{g}$ (Claim 17).

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES A. FIORITO whose telephone number is (571)272-7426. The examiner can normally be reached on 9am - 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on (571) 272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James A Fiorito/
Examiner, Art Unit 1793

/Wayne Langel/
Primary Examiner, Art Unit 1793

<div>Application Number</div> <div></div>	Application/Control No.	Applicant(s)/Patent under Reexamination	
	10/571,153	BECK ET AL.	
	Examiner	Art Unit	
	JAMES A. FIORITO	1793	